

COLMAN'S

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Sugar Department.

National Sugar Growers' Association.

OFFICERS FOR 1884.

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Treasurer—J. A. Field, St. Louis, Mo.

Fresh From the Field.

The request made in our last week's issue has been responded to by but a few, but from these the reports are very encouraging. We do hope that cane growers from all over the country will see the desirability of acting upon our suggestion and send in their reports. Just now no item could be of greater interest. The following is the request:

Now we want to know from all Northern sugar cane growers how the cane is looking and doing, and what the prospects are for a crop this year. And just now we want all to speak at once. Let us hear from all parts of the compass, so as to compare the several sections. A postal card will suffice. Tell time of planting, the kind planted, and the growth on the 12th of July.

The 12th of July will be Saturday, and should this not reach the eye or the ear of the planter by that date, let us have the best approximate estimate, carefully, and as near as possible correctly made, that readers in all parts of the country may realize the growth at that date.

THE GROWING CROP.

KNOX COUNTY, Mo., July 12th, C. M. K. Our cane was planted from May 1st to 10th, all Early Amber. Height to-day 30 inches, stand splendid.

VERNON COUNTY, Mo., July 12th, W. P. Prospect for a crop of northern sugar cane is very good, considering the land and wet season to May 1st. We are now in the middle of May 14th. I planted two acres New Orange, now 40 inches high. Same day planted seven acres Early Amber, now 52 inches high. May 27th, two acres same, now 36 inches high. June 5th, two acres New Orange, now 23 inches high. July 2nd, one acre Early Amber, which is now two inches high.

ADAMS COUNTY, Neb., July 12th, L. F. G. Cane is doing well, is now five feet high, the acreage planted is not as large as last year.

LIVELINGSTON COUNTY, Ills., July 11th, G. W. L. Considerable cane planted here this season of the Early Amber variety. Seed was procured from Western Iowa, and planted from May 15th to June 1st. Have about two-thirds of a good stand, but heavy rains recently have been against the late planting, and for other crops.

BUREAU COUNTY, Ills., July 11th, T. E. N. H. Our cane may be reported as follows: 30 acres three feet high, 20 acres two feet, 15 acres one foot, and a good stand all round. First planted May 10th, second, May 25th, and the last June 15th. We have never been able to supply the demand for syrup so far.

GREENE COUNTY, Iowa, July 12th, C. P. H. My 40 acres of cane planted during the last half of May, is from boot top to waist high, the latter on low, rich land, which is just dry enough this year. There is no increase of acreage this year over last in this county.

I wish some one would describe the method of using a rope sling on wagons, and the whole art of handling cane in four or five hundred pound bundles by a crane or running derrick, as I understand they do at Rio Grande, N. J. As I conceive the common hay carrier would move the cane around the yard, unload wagons, and then hitch it to the mill, if some one will tell the best way to hitch to a 500 pound bundle of cane.

Can you not secure for readers of this interesting department of the RURAL WORLD, an explanation of the bunch of cane that was perched in the air in the illustrated supplement of those works published by you last year.

Had we some horse power arrangement for handling our cane, it would save a large amount of hard work and could cheapen the work.

The seed question is going to demand less attention next year, for lots of bold for this year's planting was unbold of those who sold it, and involved large loss and labor on those who planted.

TROY, KANSAS, July 12th, X. K. S. My first cane was planted from the 10th to the 15th May, it is now from five to six feet high. I saw the first head come out to-day. My last planting was June 5th, it is now two feet high. We are laying it out to the mill, we have plowed three times, the crop is not yet in. Early Amber. I failed to get a stand with Early Amber. Success RURAL WORLD.

Editor RURAL WORLD: Among facts published in Field's report of Jan. 1883, I find the following: In 1881 Profs. Weber and Sowell, (then working with a rigid mill) made three experiments at Champaign with these results:

Experiment 1, 43.40 per cent. in juice; experiment 2, 41.52 per cent. in juice; experiment 3, 36.38 per cent. in juice.

In the discussion upon this subject, participated in by Messrs. Hedges, Griffin, Belden, Thoms and others, the statement was made that cane mills obtained only 40 to 50 per cent. Mr. Thoms said the best results he ever obtained were 52.653 per cent." Mr. Griffin said the average in Louisiana for fifty years was about 50 per cent.

In a letter from Mr. R. Seig, of New Orleans, the Prof. Wiley, dated December 12, 1883, I find the following:

"We were still still shelling the common crop of planters that they could and did, with their more powerful mills, at least, extract from 70 to 72 pounds of juice out of every 100 pounds of cane."

"You may therefore judge how great must have been, surprise when, by the use of scales, by the measuring of the juice and by the usual polaroscopic tests, we ascertained beyond a doubt, that only a very few mills in this country did extract more than 55 to 58 pounds of juice." [See bulletin No. 2, Chemical Division Department of Agriculture.]

These results were upon Louisiana cane, which contains a larger per cent. of juice than sorghum, and if I mistake not, Mr. Schwartz, of Edwardsville, says more easily crushed than sorghum.

phosphate in each hill, now stands 3 feet high.

BUTLER CO., KAS., W. O. D. reports one hundred acres planted, part of Early Amber, part of Early Orange, and the remainder of Kansas Orange. Planted first time April 10th, but had to replant to about April 25th, and last about May 5th. All his cane is doing well with a good stand, and some of it was about ready to head out July 7th.

JACKSON CO., IOWA, July 13th, A. L. P. I like your suggestion that statements of the condition of the cane crop all along the line be published and hope your reports will be full.

I began planting my 40 acres May 20, and finished June 6. There is but little difference in the size of first and last planting. It now averages standing about 1 foot high, though many hills would reach double that height. Of course, the leaves if straightened up would be much higher than they stand. The stand is only average. Our spring is cold and backward. Quite a difference in the vigor of the young plants is noticeable. White Imphee from Tennessee is best, next comes Amber from Minnesota, and Kansas seed is poorest of all. I am interested at the very least in the condition of the soil over the germinating power of the seed. Planting done when the soil was in good condition produced a good stand, while the same seed planted only two or three days later, when the ground was wet, comes very near being a failure.

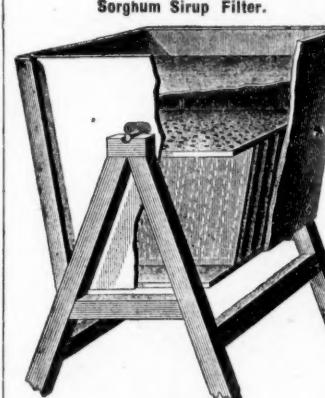
LEXAVER CO., MICH., July 12th, Daniel Root. Our Early New York Hybrid cane, planted May 8th, stands three feet high on the average. Early Amber planted May 12th, stands on a field of twenty acres an average of 2 1/2 feet. Same variety planted June 1st, about eighteen inches. There was more cane planted in Michigan this year than last, but much of the seed failed to germinate. Some plant too deep and others before the soil is warm enough to germinate the seed.

HILLSDALE CO., MICHIGAN, W. A. F., July 13th. Cane is looking fine, far ahead of last year, and the largest I ever saw here at this season. It stands four feet now but I have some Early New York 5 feet high and very even; my amber is, however, only 4 feet. The fruit crop promises well.

AUDRAIN CO., Mo., July 14th. J. G. W. I planted five acres of Early Amber cane, May 19th, which is now over four feet high, another plant on May 27th, which is 2 feet 2 inches high. Both look well; indeed, all the cane in our neighborhood gives promise of a big crop.

WESTSIDE COUNTY, ILLS., July 14th, H. L. J. My Amber cane was planted May 20th, and to-day averages 33 inches in height. I have ten acres in cultivation.

Sorghum Syrup Filter.



For rapidly clarifying the juice of sorghum.

And making light colored syrup a certainty.

The smallest Filter will clarify a barrel of juice perfectly in twenty minutes.

Every Filter guaranteed to do as claimed. Address, O. F. BOOMER, 47 Brooklyn Ave., Boston, Mass.

Day Again.

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Fifty per cent with the former, would be no better than 45 with the latter.

In the report to the National Academy of Sciences, November 1882, by Prof. Silliman, Chairman of the Committee on Sorghum Sugar Industry, are the statements of Mr. B. V. Ransom, of Salem, Neb., who received a special and complimentary notice because of "his accurate statements." He closes his statement without giving the style of mill, by saying, "I got only 30 to 40 per cent."

Knowing the mill, it is only necessary for me to say it was not Squier's.

It was being unfair enough to quote only the low percentage of the other mills and the high percentages of the Squier's.

I might justly have been accused of "misrepresentation," but I have given as complete an exhibit for these rolls rigid as I could, and could their manufacturers make any better showing they would have done so before this.

Now, I do not claim that some obtain a low percentage with the Squier mill. There are men who manage to do poor work with the best of tools, but that is no discredit to the tools, I only say those high percentages have been obtained by the Squier mill, while I find no such reports for others, nor do the parties assailing me show any. I have been assailed in other publications in the same way, but in no publication do they controvert a single statement I have made, and what is more they can't do it.

My statement was first strongly drawn to the point by the marketable showing of the 1882 U. S. Patent Office, Koenig's No. 3 Niles at Morristown, Minn., in the fall of 1880, seven-eighths of an acre were exactly divided between the two, the Niles yielding fourteen gallons per acre and the Pearl twenty, or nearly one-half more.

By the way, in my last I quoted at 60 per cent Drummond Bros., of Warrensburg, Mo., and the Jefferson (O.) Works. By some means the phrase "Both Squier mills" was dropped. Yours truly, M. DAY, JR.

P. S. Oh, yes, Mr. Field's "friend," Root, has broken out again! Well, as in his first so in his last there is neither fact nor argument—notthing but innuendo, slurs and personal abuse. I don't object to "criticism," but abuse is not criticism. Any thing can abuse. When Root can write like a gentleman and give facts and argument instead of vicious abuse so out of character in the genial columns of the RURAL, he may merit further notice.

Now for That \$100.

II. A. L. Henry, President Bisselphus Apparatus Co., will send his \$100 to Col. Colman, Editor R. W. H. will send him the card with Mr. Anderson's signature as I stated. Col. Colman is entitled to the \$100 for printing so much ignorance and idle boasting. I do not wish to insult Mr. Anderson or any one else. When my article is published in the RURAL WORLD, that will vindicate anyone engaged in the northern sugar cane industry some one should criticize. I am a man of few words not given to boasting and I like to see men dealt with fairly. If we succeed in the sugar industry there must be some common sense in the articles written to promote it.

DANIEL ROOT.

Standing Behind Mr. Root.

EDITOR RURAL WORLD: I have been taking some interest in the little free handed fights on the mill and bisulphite.

I am tempted to stand behind Mr. Root on the mill question and say go on.

It stirs me up sometimes to see what some parties publish about their wares in public print. If it were in the advertising column where all such stuff is free and nobody would think of believing it, it would be different.

The difficulty consists not in telling an untruth, but in not telling the whole truth, so when parties tell the truth in such a way as to make the confusing public believe what is not true, I feel like Mr. Root that such things ought not go unnoticed.

The whole thing puts me in mind of the way the western R. R.'s have advertised their land. They come out in glowing terms of the beautiful rivers, prairies, abundant crops, etc., giving instances of 50 and 20 bushels of corn per acre, and 90 and 40 of wheat. These are all true enough, but they lack much of being the whole truth.

Every Filter guaranteed to do as claimed. Address, O. F. BOOMER, 47 Brooklyn Ave., Boston, Mass.

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of the weight of the cane at its best, even by the most careful management.

There are many that can testify to being misled by the truth, who would not have been by the whole truth.

H. CULBERTSON.

Settling Tanks and Defecators.

"Firepan" asks me if I use settling tanks. No. Why? To save time and money and the color of the syrup by shortening the process. But two juice tanks, a defecator, an evaporator, and a cooler, are indispensable to a good syrup. Let the juice settle in the tanks, settle in the defecator, and you will find no use for other settling tanks. After settling you will find in the bottom of the juice tanks, among other things, mud, which no ordinary filter will remove, since the dirt is decomposed by the juice. Nothing but its superior gravity will remove it.

How to settle the juice is a question of settling tanks, which I hold with all respect to my friend Folger's view) cannot be removed except by lime or its equivalent and defecation.

Having brought your juice to a boll, or as near as possible, without disturbing the blanket of scum, draw your fire and let it settle twenty minutes, or if you wish to be very certain of your process, gently push aside a small portion of the blanket and you will see the juice filled with small particles floating about. Wait till the scum is thin, then draw off the juice. Many advise to sweep off the blanket and draw a scum from the bottom of the tank. I have found that this is the best way to settle the juice.

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Some parties have used a garden rake on their cane, and find it to be the best and quickest way to get the weeds out of the rows. It rakes up the weeds but does not injure the cane.

Now we will thresh some seed. I find it the best way to thresh the seed, without removing the hull or cracking the seed, to take a common steel curry comb, such as we carry horses with; lay the heads of seed on a board or table, place the comb lightly on from one to two heads, draw the heads from the comb two or three times and the work is done.

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The Shepherd.

Officers of the Missouri Wool Growers' Association.

President—H. V. Fugley, Plattsburg, Mo.

Vice President—G. H. Wallace, Howard county, Mo.

Treasurer—N. H. Gentry, Sedalia, Mo.

Secretary—L. L. Soller, Osborn, Mo.

OFFICERS OF THE MISSOURI MERINO SHEEP BREEDERS' ASSOCIATION.

President, Samuel Jewett, Independence.

Vice President, R. T. McCullough, Lees Summit.

Secretary and Treasurer, H. V. Fugley, Plattsburg.

Directors, Harry McCullough, Fayette; Philo D. Jewett, Independence, and L. L. Soller, Osborn; Committee on Pedigree, J. V. McCullough, Sam Jewett and Harry McCullough.

Business Capacity vs. the Tariff.

At times doctors differ as to the nature of the disease with which a patient is afflicted, at others as to the cause, and yet again as to the remedy called for; but that doctors differ, has become a proverb which admits of no doubt. When a man fails he sometimes is able to tell the cause at other times is unwilling (then he tells something else) and yet again doesn't know, can't tell, and resorts to any kind of an excuse. That trade centers are always disturbed by an apprehended act of our law-makers, is probably true, but that such disturbances occur after the law is made, need not be given a second thought by those who know any thing of business and are able to see an inch before their noses. To be "forewarned is to be forearmed," hence the man who knows what is coming, if prudent and provident, looks ahead and provides for the future.

We are led to this kind of philosophizing by reading the following stupid paragraph from the Sheep Breeder and Wool Grower, and shall next expect to be told that the Colorado potato beetle is prevalent because of a U. S. tariff of fourteen cents per bushel on foreign potatoes.

Crops will be better or worse, or that the farmer cannot control; men fail because of lack of business capacity in providing, want of foresight or some other quality necessary to success, which they ought to possess. Hence we see near neighbors in the same line of business, in the same city, on the same street, fail, and others making fortunes.

What Mr. Krause says may be taken for what it is worth, to us it is evident that he failed for want of capital or the old cow died, not from disease, but simply for

luck. He will tell his own story, however, marking that many men of business have not

The failure of George H. Krause & Co., wool merchants of Philadelphia, during the past month, ought to furnish food for reflection on the part of those who claim that the reduction in the tariff on wool by the last Congress has net of itself made any difference in the prices or in the condition of the wool market. Mr. Krause says that his failure was the result of the depressed condition of the trade brought about by the low prices consequent on the reduction in the tariff. He further stated that in twenty years' experience he had not known prices so

before.

Mutton and Wool.

Whilst we cannot concur in all that is

said by the Mirror and Farmer below

there are a good many grains of truth in

the article. Maine farming and New

England farming is so different from

that of Missouri and this latitude that, whilst we can afford in some

respects to profit by their experience, we

can depend more upon our own. In the

case of spring lambs, for instance, the

Maine farmer cannot begin to be on an

equality with his western brother with

his milder climate, better grass and the

general surroundings necessary to that

business.

One of the most agreeable dishes of

England, the land of mutton and lamb

par excellence, is "spring lamb with mint

sauce," and the reason why it is popular

there is because of the facility with

which it is raised. But then it is raised,

not like a seed that grows, but a some-

thing produced by intelligent handling

and skill. It is, in other words, a spring

dish of dainty flavor and marvellous ac-

ceptability, the likes of which cannot be

obtained at any other season of the

year.

Spring lamb ought to be, and with

proper handling can be made equally ac-

ceptable in Missouri, for we not only

have the climate and the grass, but the

ready money market for all that can be

sent to it. But to the article to which

we referred:

"New England farming is slowly but

surely becoming arranged into speciali-

ties. Men are getting out of buying a

sheep or a cow simply because it is such.

They want them for a certain purpose.

They want sheep for lamb or wool or

mutton. For wool, the Merinos are un-

doubtedly at the head, and they will

hold a leading place from the fact that

a large part of our best sheep pastures are

so far from markets that lambs cannot be

profitably raised.

Again, all lambs require special

care and feeding, and it is not sure

to how long the sheep are kept in large

flocks, but large stocks that are to be

turned on to the mountain pasture early

in spring should be kept for wool, and

lambs should not be dropped till the

grass starts. Those who live near

markets, and have all the needed com-

forts and conveniences and plenty of

feed, can handle any of the large sheep.

But there is a class between the ex-

tremes, who have a small pasture in

which they want to keep a few sheep to

furnish mutton and wool for home use.

These men are always shifting and ex-

perimenting. They find Merinos to be

unusually small and compact, and

they are also in many places crowding

out the larger sheep from the pens of

those who raise early lambs, being al-

ways plump and ready for market at

any age.

It was said many years ago that a

Southdown buck would improve any

flock of sheep he was put with, and the

truth of this seems to be just recognized.

G. M. Clay says: "A gentleman wrote

me last year for 800 lambs of any

kind, and Southdown bucks." It is not

known what he means by this.

There is the same foolish prejudice in

the Southdowns, as is the same in the

same great constitution in the same

stock, as in the same in the same

Oxford Down Sheep.

EDITOR RURAL WORLD: Have had in my possession a small flock of the above breed of sheep for the last two years, and am convinced that they are the peerless wool and mutton sheep combined, producing on an average three to four pounds more wool than any other middle-wooled breed, and excelling in the production of mutton, the famous Shropshire.

In the Oxford, we have a sheep which will average at the age of two years 200 pounds, and over. Being as hardy as the Southdowns, just as good feeders, if not better, they cannot fail to have a grand future in this country; that I have increased my flock considerably.

HY. C. ECKERT.

Belleville, Ills.

Sheep—The Best Breeds, and How Best to Feed and Care for Them.

S. A. BELTON.

Every breed has its peculiar characteristics, its merits and demerits. In some localities where pasture is abundant and cheap, remote from markets, the Merino is the most profitable breed. They are extremely hardy, and yield a larger amount of wool per head than the coarse-wools, which sells for more money. But if one is living in a thickly-settled country, where mutton is the first object and wool secondary, then keep the coarse-wools, of which there are several different breeds, viz., Leicesters, Lincoln, South Down, Shropshire and Cotswold. The South Down and Shropshire grow medium wool, while that of the Cotswold is the coarsest. As in the case of all other kinds of stock, a grade will satisfy the demands of an ordinary farmer better than a thoroughbred; a cross of native ewes, with thoroughbred males is to be preferred. The mutton we are after first, and in my experience the cross of the Cotswold on native stock produces the required results. The cross of a pure-bred native ewe at from \$25 to \$30 per head, and a thoroughbred Cotswold buck should not cost more than \$15 to \$20. He must be young and of large build, frame with a thick neck and large limbs, and he should be well woolled, especially on the belly, and have a good forelock and pedigree. If a yearling, 25 ewes are a sufficient number, and double that number, if a two-year-old. The buck should not be allowed with the ewes till the first of December, three quarts of seed will plant an acre.

So much for our flock; now we must provide separate shelter and yard, as poor results always follow where sheep and other stock yard together. The stable may be of logs, a straw shed, or a frame building; the main consideration is to keep the sheep out of all storms, the wetting of their fleeces with snow or rain being very injurious. Do not keep the sheep too close, as there is danger that the sheep may take cold on changing from stable to yard. Let the floor be well littered with straw, or something else, which will keep the feet dry. Feed coarse, clover and straw for coarse-fodder, and oats for grain, about a gill to each of the ewes, double the amount for the male, twice a day. Feed also cut roots, or potatoes, once a day. Keep salt and water always in the yard, and the sheep will keep healthy and thrive all winter.

When the lambs are being dropped, great care should be taken that they are not chilled, and that the mother allows them to suckle. Bran mash is excellent food for the ewes to increase the flow of milk. Avoid all rough usage in the care of sheep; move among them quietly, and keep the dogs away. Cut the tails off about two inches from the rump; also castrate the males when about a month old. Tag the sheep before turning them into the pasture, and do not shear them till the weather becomes settled—about the first of June—unless it is very warm. Shearing is generally performed by men who go from flock to flock and charge from six to eight cents per head. Use a wool box to tie up the wool, and remove all manure locks from the fleeces. Always keep the sheep marked. Provide a good, large range for the pasture of the sheep—short feed is better than long grass—and when your lambs are four to five months old they will sell for \$3 to \$4 apiece, according to nearness to market.

Use the buck with the old ewes, but with a good progeny. The lambs should not be allowed to breed till two years old. Dispose of all animals that have lost their teeth. When two years old, the grade wethers should weigh from 150 to 180 pounds, and the ewes from 130 to 150 pounds, and they should sell at from four to six cents per pound. Native would probably weigh from 90 to 100 pounds, and shear from three to four pounds of wool, while the grade will shear from eight to 12 pounds. In making the cross, we shall have secured an increase of from five to eight pounds on fleece, and from 40 to 60 pounds on carcass, which would show a reasonable profit, besides paying the extra cost of the male.

Sheep husbandry, like any other industry, must have the right man at the head to be profitable. One must have a knowledge of it, and make it a study. Blood will tell and feed will tell; one may take a flock of sheep and make them gain and pay, while another will lose by the operation.

Breed well, feed well, and then sell well; but there is profit in so doing, there is loss in the reverse.—Sauk County, Wis., Rural New Yorker.

Wrinkles or Folds on Merino Sheep.

"Washington and the neighboring counties of Pennsylvania, as well as the border ones of Ohio and West Virginia, make up one of the best Merino sheep districts of America; not inferior even in the goodness of their flocks to those of Vermont, although not quite so celebrated. The breeders here are beginning to be convinced that the large, unsightly wrinkles in the skin of their sheep, are very injurious to the woolness and length of staple of the fleece, and have now determined to get rid of these wrinkles as fast as possible. This is somewhat like the "royal road to wealth." The royal road to wealth has not been as yet found without encountering some trouble on the road. The same is true in regard to hatching chickens. Even if the most perfect incubator was procured, it will be found necessary to attend to it every day, and what with turning of eggs and renewing of oil and keeping an even temperature, the incubator was not made so many friends as at first thought the user would.

The incubator user was found to have himself. She has been breed to the hatching, and after she once makes up her mind to go at it she has no other business on hand. The difficulty generally experienced is that two hens are not willing to go into the same business together, and when they do, the stock is generally not so valuable as of other parts of the body.

There is the same foolish prejudice in the Southdowns, as is the same in the same great constitution in the same stock.

Breeders had the good sense to discard the ugly excrescence; let them do the same now by the ram.

The above from the Sheep Breeder and W. C. Goveys fails of point in that it does not state that the same quantity of wool can be taken from the plain as from the wrinkly sheep, for the same quality and quantity of feed. If they can show this to a demonstration, then may sheep breeders and flockmasters discard wrinkles, but until that is done this kind of talk is the merest bosh.

Mutton Merinos.

—As there has been quite a discussion in regard to the Merino as a mutton sheep going the rounds of the papers, I wish to express the opinion that Mr. Garland's statements are not so far wrong as some think they are. I have had some experience in raising and also in fattening Merino sheep. In the last six years I have fattened and shipped several loads of Merino sheep to Chicago and can say that I always received about the top of the market when I shipped. What I like is for men to give their experience and not what they might do. I will give a little of mine. Last year I took 102 Merinos, fed them on my own feed, the first of February, fed them to the first of April, and then sheared them, and sold at home for forty cents per pound. My sheep averaged 109 3/4 pounds. The age of the sheep was two and three years old when sold. The fleeces averaged eleven pounds. Time of growth ten months and ten days average. Sold the wool for 23 3/4 cents in May. Now those sheep never averaged less than ten pounds any year as my whole flock runs within a fraction of that and always get the best price going here; and any one can figure that up and he will see that I received a fair price for my sheep.

But when you have done all that there is another thing to look at. I would as soon raise and feed 300 Merinos as 200 Cotswolds and the reason of course is the difference in feed and handling. Perhaps some will think that I have had no experience with what we called the mutton breeds. Well I have had some, in both this country and also in Europe. Now I will tell you the principal reason why the mutton qualities of the Merinos have not been developed. The Merino is easily raised, requires very little care, and can be grown in fence corners and other places difficult to cultivate. Its production of seed is immense, yielding often at the rate of 100 bushels to the acre. It should be planted in hills four feet apart, any time from the 10th of May to the 1st of July. Three quarts of seed will plant an acre.

—The Iowa Homestead enthusiastically pronounces the sunflower the best egg-producing food known for poultry, keeping it in a thriving condition, and largely increasing the production of eggs. Even poultry raisers who tries it will find that this is the best food known for glossing the plumage of fowls, and is almost indispensable to those who want to fit their birds for exhibition to the best advantage. The Russian sunflower is easily raised, requires very little care, and can be grown in fence corners and other places difficult to cultivate. Its production of seed is immense

Horticultural.

Judge Samuel Miller, Bluffton, Mo., will assist in conducting the Horticultural Department in this number. Any inquiries addressed to him will be promptly answered through the RURAL WORLD.

Notes From Samuel Miller.

RASPBERRIES—HOOSIER MAMMOTH AND GREGG.

I have closely examined these two, and find that there is a difference as I have them. To a casual observer they look exactly alike. Here I have Gregg in two places, and now just as the fruit should be ripe, the bearing canes and fruit are withering. While Hoosier is fresh and green—treatment same.

The Gregg has a heavier crop than the other this season.

The Hoosier has a distinct bloom between the pips, not so prominent: In Gregg, and it is also a firmer and sweeter berry.

It is possible that I might have been cheated in my Greggs, but think not, as it fills the description.

SEXUAL CHARACTER OF STRAWBERRIES.

Clifton Thomson:—There is really no advantage in a pistilate strawberry or a staminate, except that in raising seedlings some of them will prove pistilate, and of such excellent quality that it would not do to discard them, and which bear abundantly when planted in proximity to staminate ones, that would utterly fail if planted alone. Crescent and Jersey Queen are two instances.

To make plain—one might as well expect to raise chickens from hen's eggs where no rooster had been about.

That pistilate varieties will bear more than staminate ones, is a wrong idea.

Look at Captain Jack, Charles Downing, Cumberland, Triumph, Daisy, and James Vick, all staminate, yet bear about all that plants could. One staminate plant for six pistilates, is enough to impregnate them all.

A NEW NUT.

A few weeks ago we received from a friend in Illinois a peculiar nut called a pecan, which in reality is a curiosity.

Externally one might call it pecan or shellback hickory nut, but it is evidently a hybrid between the two. Twice the size of any pecan I ever saw, but shell thin like it with the appearance of a shellback, except that it is longer than they usually are.

Internally it is pecan all through and of most excellent quality. The sender has quite a number of seedlings of it, but whether they will come true to the parent or not, is difficult to tell. One thing is certain that if seedlings of it can be grown, they can be budded with the original, and we have one of the most valuable additions to our nut-bearing family that the country possesses.

And I am not sure that if it is a hybrid; but that it can be grown on the common hickory. I withhold the friend's name for the present, for fear of his being overwhelmed with letters on the subject, as there are no more of the fruit of last year on hand. I received two. One we ate and the other I mean to keep as a curiosity.

There is only one way to grow the hickory by budding, and that is done differently from any other tree. When parties have trees ready to bud I will tell them more.

MORE ABOUT STRAWBERRIES.

Now that the early ones are about past, and the late ones coming in, we can decide on the merits of the first at least.

Sauvages, Burns and Centennial are earliest, Centennial a few days ahead.

As without going into any further description than what I have written above, I will say that it is by far the most valuable of the early ones, and for the market man more money in it than any other Blackcap we have. Several new ones are good. One from Judsonia, Arkansas, is of fair size and very productive, and fine quality. Another, sent to me for Caroline, proves a splendid large Blackcap, and a stranger to me. Among the red ones, I believe all things taken together, that the Turner and Cuthbert are about as valuable as any.

If we leave off Schaffer, Colossal for market, it will beat them all. Lost Rubies has given me the largest berries among the red ones except Colossal, while Crimson Beauty was the earliest among the reds. These three of St. man's; Crimson Beauty, Scarlet Gem and No. 11, are again showing their tendency to bearing fruit all summer.

That forgot Hassell; is also a very good one.

The Caroline is evidently a cross between Bruckles Orange and some Whitecap. It is unusually productive, and must become a favorite. The jelly made from them is like spiced honey.

That dispute question about the Hoosier Mammoth and Gregg we will see to in a few days.

July 4th.—Picked 26 quarts of Schaffer raspberries, yielding at the rate of over 600 quarts to the acre at one sawing. And such raspberries I never saw before.

STRAWBERRIES AGAIN.

Things got a little mixed between Cornelia and Jersey Queen. My Cornelia had but two berries, and one of them the birds got. It was the Jersey Queen that was giving the fine berries late.

James Vick still a few berries on the plants, July 2nd.

Among the strawberries I have the following I can easily dispense with: Downer's Prolific, Miners Prolific, Ida, Leming's White, Africque and Albany. The latter must retain for the sake of growing plants, as there are still some who will have it.

And now allow me to sum up the whole sum and substance of the Albany and Crescent's unusual popularity. Crescent for its immense productiveness, fair size, bright color when half ripe, in which condition it can be shipped 1,000 miles.

The same of Albany except that it does not bear well in many places. The fact when strawberries come in, the appetite is craving for new fruit and with the help of sugar these can both be made palatable, but I will venture to say that not one in ten ever ate an Albany.

Crescent when fully ripe as they should be, when they are first-rate but in which condition they cannot be shipped any better than many others. This season we had two rows of Albany, and two rows of James Vick next to them. They were planted out at the same time, received same treatment in all respects. The Vick's produced about three times the quantity of the Albany, equal to any other strawberry, while it will ship.

But the great wealth of the county will be in the fruit growing industry. It has hardly made a start, and every year will see a wonderful stride forward.

Horticulture in Iowa.

The Horticultural Society of this State have for many years been trying to persuade themselves that we have a good fruit country, and many cases of success seem to bear them out in their conclusion. Our extreme climate, and the ravages of insects, render this a serious warfare.

There have been trees enough planted to furnish fruit free to all our inhabitants if they had not been successful.

In the winter of 1873 there was about one-half of our stock dead; so cold was it that the ground froze four to five feet deep and cabbage and parsnips perished in the ground. The winter of 1882-3 will long be remembered, not from excessive cold, but the trees went into winter quarters in an immature state, resulting in millions of dollars' worth of damage, any orchards presenting more dead trees than live ones.

The striking feature of this calamity consisted in the great difference in varieties. Instances can be seen where a whole row of one variety perished entirely, adjoining which was another row unharmed. Varieties heretofore hardy, perished by the wholesale.

Many are discouraged, and some have lost hope. But we must not give up in despair. These lessons are severe, but we must profit by them; our future must be a new departure, nothing but the iron-clad motto, "Adapt and persevere" must be our motto. Although this is an off year for apples, my Weathys (a Minnesotta ironclad) are full.

Cherries are a good crop and never before sold so low as one dollar per bushel, but we need a more hardy stock for cherries and more of late varieties.

Plums are practically a failure, the European varieties are killed out and the natives useless from the ravages of the curculio.

Small fruits, however, are at home here, and profitable if well handled.

Never before in twenty years were berries so near a drug in this market as now.

O. MOFFETT.

Southern Missouri for Fruit.

Southern Missouri, as a fruit growing district, is destined to become one of the best in the West. Howell county is particularly situated for this, being on the southern slope of the Ozarks. The highest points on the Ozarks, as well as on the Kansas City and Memphis railroad, is at Cedar Gap. From that point it is a gradual descent until you reach the valley of the river along which the railroad runs. This slope is nearly eighty miles long. At Cedar Gap is a large orchard started by one of the railroad conductors. Land is here well situated for orchards, and the people are just finding out that there is a great location for fruit within their reach.

Below Cedar Gap is another fine location at Mt. Grove. Here is a broad, level plateau ten miles wide, and admirably situated for both fruit and stock raising.

But the choicest location of the whole road is at Olden, Howell county, eight miles above West Plains. The place is protected on the north by the higher range of the mountains, the land being some 500 feet higher both on the north and west. It is on the dividing ridge between the waters of the Black and White rivers, waters on one side flowing to the White and on the other to the Black rivers. It is high and dry, and the rains disappear in a few hours after they cease falling.

The soil is of a gravelly nature, and yet quite productive. The hills are of a mulatto soil and the valleys are a rich loam. The whole country is covered with a young growth of black jack, oak and hickory. All through the woods grows the prairie grass, blue stem, in abundance, making it also one of the best of stock country, especially for sheep, which are known to have the foot disease.

Mr. Aikin stated that something should be done at once to secure a good horticultural exhibit from this State, and that the committee should have a full report for the next meeting. Dr. Chapin thought it would be possible to show the choicest perishable fruits as late as December with any known system of cold storage. As for the proposition of the railroad company to carry goods down for full freight charges and to return them free, amounts to nothing, for none of the fruit would be returned.

Mr. Jessup thought it would be only just if the growers furnished the fruit properly packed; there should be some funds from other sources to pay the freight or that the railroad should carry the perishable fruit free. The railroads would be benefited more than any other parties. He thought if this matter was properly presented to the company it would be likely to make this concession for fruit which seems necessary.

Three years ago the president of the Missouri State Horticultural society, Maj. Z. S. Ragan, called the attention of its members to this locality as peculiarly adapted to the growth of fruits and now he says he is more convinced that within a few years the whole southern slope of the Ozarks will be covered with orchards.

At Olden, Howell county, the Olden Fruit company have made a beginning. The 1,300 acre fruit farm is beginning to show. This year were planted 20,000 peach and apple trees and they are in good shape and starting finely.

This is but the beginning, and each year will see about 20,000 more planted until the whole will be planted. The location at Olden we think the choicest to be found; a good town site, good switch and level land near it, and we prophesy it to be the nucleus of a large, very large fruit district.

I. A. GOODMAN.

The World's Fair at New Orleans.

That California is alive to this project is illustrated by the following from the Bulletin:

The June meeting of the State Horticultural Society was held at Granger's Hall last Friday. The first subject taken up was the report of the committee on the proposed exhibit of California fruit at the New Orleans Fair. W. H. Jessup of the committee reported a conference with A. Andrews, and stated that they had been promised co-operation in every available way to secure a good representation of the State at that Exposition, but it could not yet be stated what financial arrangements would be made to aid the fruit-growers to make their exhibit.

W. H. Alkin of the committee also made a report. He thought there should be some arrangements made to secure financial aid, for the burden of expense should not be placed upon the growers alone.

Dr. Chapin stated that the Horticultural and Viticultural Societies of Santa Clara county were working in union to prepare a county exhibit for the State Fair, and with the idea that the material would be afterward co-operated with all local societies and secure their co-operation.

Upon motion the committee was continued to make a further report at the next meeting.

A. Andrews, Commissioner of the New Orleans Exposition, addressed the society by invitation. He stated that California could make the best display of any State in the Union. There are a large number of rich individuals here who will make exhibits at their own expense, but there are other men and societies who must have help to enable them to exhibit. There are many things which must be done and there must be funds at command. Mr. Andrews said he was willing to give his best efforts and defray all his own expenses, but his efforts must be seconded by an appropriation from the State or by funds from private subscriptions. Ten thousand dollars at least are needed, and he declared that the money should be forthcoming from some source. California has never been represented at a world's fair yet, and this should not longer be said of her.

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The Grapeshot State.

Too many people, both east and west, have been disposed to look upon and speak of Kansas as the grapeshot State, but they will think differently after perusing the following from the Record Union of San Francisco:

Within the last ten days letters have been received asking information in regard to remedies for the protection of vineyards, hop fields, etc., from the ravages of grasshoppers, which have apparently in various parts of the State in some numbers, to alarm those whose lands are infested. Among these persons located in adjoining sections, especially those who are engaged in horticultural and viticultural pursuits. The only remedy that I can offer that would be effective for present purposes is the use of vines in which is placed coal tar mixed with coal oil or coal oil and water. Although this remedy has been issued in the United States Agricultural reports, 1883, a similar design has been used by R. B. Blowers of Woodland, Yolo county, for some years, and which proved eminently successful in destroying grasshoppers in his vineyard and alfalfa fields. From the time the young grasshoppers are hatched until they become winged, with wings about seven weeks. During this period of their existence they are not liable to migrate from one section to another, and are easily captured in traps.

They are cheap there. In many places railroad land can be obtained at \$3 per acre, government land at \$1.25 per acre, and homesteads can be bought off for from \$300 to \$500. On the homestead will be a house and barn and ten to forty acres cleared and in cultivation.

The soil is just rolling enough to make a good, natural drainage possible, the ridges are not broad nor are the ravines deep, but the land lies somewhat as it does out on our prairies south of here. Everything points to it as being a choice location for fruit growing. The orchards now standing look well, even with the poor treatment they receive.

Peaches were never known to fall for sixteen years before. Apples never fail, and there are a few pear trees standing which show thrif and no signs of blight or blight.

Lands are cheap there. In many places railroad land can be obtained at \$3 per acre, government land at \$1.25 per acre, and homesteads can be bought off for from \$300 to \$500. On the homestead will be a house and barn and ten to forty acres cleared and in cultivation.

For a poor man it seems to be just the place to go to make money. Markets are good. The Memphis railroad gives close and quick markets both north and south, east and west. Everything can be sold there at good prices, and it is useless to go farther west when the chances are far better nearer home. For marketing fruit there is every advantage. They can be put on the cars there at 6 o'clock p.m. and be in Kansas City at 8 o'clock.

The place is healthy, being high and dry. It is not subject to drought, as are the Western prairies; nor are the winds such a terror, the forests giving a good protection both in the winter and summer.

This country is changing rapidly. People are coming in from the North and East, and in a few years you will see good farms, stock ranges and fruit farms where now nothing is to be seen but forests.

The government land is being taken at the rate of 3,000 to 5,000 acres per week, and will soon all be gone. For sheep, and also for hogs, the country seems peculiarly adapted, both being able to live the entire winter almost without feed, if there be plenty of acorns.

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caught with one such pan in an afternoon. It is easily pulled by boys, one at each rope. The oil may be used alone, so as to just cover the bottom, or on the surface of the water, and the insects strained through a wire ladle. When the insects are small, one may economize in kerosene by lining the pan with saturated cloth. Where oil has been scarce, some persons have substituted concentrated lime, but when used strong enough to kill, it costs about as much as the oil."

Evaporated Fruit.

To most people the mention of dried fruit suggests the not over pleasant collections of a lot of drying apples strung up on a string for three or four weeks in the chimney corner for a roost for flies and all other insects which might choose to make their resting place, followed by innumerable soaks and washing to remove the accumulated dirt when prepared for the table, or else the vision of large racks laid on the ground forming all the supply of food for all the bees, moths, etc., and a lodgment place for all the dust in the orchard; and then the exquisite pleasure of opening a box of sun-dried fruit full of worms, or else so thoroughly decayed during the long process of drying as to render it tasteless and unpalatable. Is it any wonder then that this valuable industry was unable to drag for years with no advancement when such stuff was put out on the market as food? Who would not rather pay double the money for something palatable in the shape of canned goods than eat such trash?

Until quite recently our fruit growers have taken their peaches, apricots and other fruits, to the cannery, and came back with their pockets full of golden coin for fruit sold at enormous figures, and they never seemed to think the time would come when there would be an increase of crop and when the canneries would be unable to cure all the fruit in so short a season. But this is not the worst trouble. All fruit will not grow of the same size, and the canneries found that if they wanted to sustain their reputation they must select their fruit, so they began to sort and sort again, and then cut the price until the product was almost in some cases, without fair remuneration for his labor. Now comes the idea that the evaporating business can gain to gain favor. It became a necessity for the producer to cure at least a part of his fruit himself. By doing this he was able to sell it when he pleased and take advantage of the higher market price and render himself as independent as he was in selling his grain or barley; and it became apparent that the producer must either cure his own fruit to a certain extent to quit the business; and if any one doubts this statement let him take a stand in any of the large nurseries and watch the thousands upon thousands of trees sent out every day of the winter months for nursery planting, and then let him

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BY NORMAN J. COLMAN.

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We are continually receiving letters enclosing only one dollar for subscription. The price of the RURAL WORLD has been \$1.50 per annum for months past; hence, those who send only one dollar, are being credited for the time they pay for.

We have enjoyed another week of glorious weather, with here and there occasional showers, but generally warm days and cool nights. First rate growing weather indeed.

VERY gradually, but just as surely are the creameries of Missouri wheeling into line and paying handsome profits on the capital invested and for the work done, and this too, in spite of the low prices which butter is selling.

THE cholera is raging with increased violence at Tonon and Marseilles, France, and the European and U. S. Governments are taking special precautions against its introduction to their countries by the thousands of flying refugees.

B. D. BUFORD & Co., of Rock Island, Ills., one of the largest plow manufacturing firms in the world, are in financial difficulties and have made an assignment for the benefit of their creditors. Their liabilities are said to amount to between four and five hundred thousand dollars, and their assets about \$900,000. About four hundred men and boys are thrown out of employment.

THE latest reports of the English wheat crop are favorable for the growing grain, hence values are slightly weaker. From Chicago same day, July 14th, we have much the same information, little doing in corn and markets closed dull with lower prices. The quality and quantity of new wheat reported are of this condition of

The market shows no material and may possibly not be so much relief is felt in the money market. The latter has been labor for two months past, and many extensive operations are dependent of their usual accommodations and unable to make their usual contracts. The same conditions prevail to an even greater extent in both Boston and Philadelphia. The difference being that wool is spot cash in St. Louis, and there it is not.

THE Government officers of the United States are charged with the maintenance of law so far as it affects the federal officer; as witness the way in which they act for a poor farmer who sells his tobacco crop more than is permissible, or a retail grocer who sells liquor without a license, or a private devil of a moonshiner who runs his illicit still. When, however, the health of the public is involved, no matter how protected by law, where do we find the State officers pursue similar tactics. For instance, in the manufacture of bogus butter it is necessary that others take steps to see the offenders punished, whilst the officers of the law stand idly by. In the various articles of food sold by the agents of our merchants how very few of them can be found unadulterated?

Witness the use of glucose as an adulterant of sugar and sugar compounds, the vile stuff distributed and sold for milk which kills off the babies and poisons their parents, the viler ingredients that enter into the manufacture of lard, of tea and coffee, of jams, jellies and preserves, and every condiment known to commerce, as vinegar, pepper, mustard, pickles. Indeed, the law could not be in a two column article; but not living, could officer have the public to protect them from the legion of swindlers, who, worse than burglars or horse thieves, not only steal from, but poison the

READING AND THINKING.

As compared with their fellowmen of the cities, we believe it to be a fact that farmers think out what they read the most and best. The city reader skims the surface, he knows what is going on in the world at large superficially because he reads so much of it; but he does not stop to think and compare this with that. The farmer reads less, but thinks more, hence as a rule he is better able to give a given question of local or national moment than his city brother.

Other things being equal, however, the city man will more logically reason a question and make more of it than the countryman, because he is brought more in contact with men who are trained logicians and is necessarily compelled to reason by rule. He is more or less the majority of instances the better educated man of the two, better able to weigh evidence and to detect errors in reasoning; his tactics are therefore considerably more polished and he is apt to crowd one more trained in debate.

Suppose, on the other hand, the opponents of oleomargarine, the friends of pure butter, throughout the country, should engage one or two first-class lawyers to watch their side of the case, that it might be made a life and death struggle indeed, how different the contest would be, how vastly different the confidence people would show in the result?

BRECKENRIDGE, MO., NEWS.

Shipments of hogs for the week ending July 12th: J. L. Stagner 1 car hogs, S. C. & S. L. car same, all to Chicago. Had fine rain on the night of the 11th, during the course of which much needed service, and making for our farmers many thousands of dollars.

Corn is looking fine; indeed, to my knowledge it never looked better, and if nothing of an adverse character happens to it, it will realize 100 bushels on many farms in Caldwell county.

G. B. Bothwell is cutting about 400 acres of very fine meadow. J. F. Finley about 200 equally good. Wm. White, 200, and he has over 300 acres of magnificent corn.

It is this want of observation and of calculation of his own affairs that results in his following old methods, running in old ruts, planting the same crops from year to year and discounting suggested changes and improvements, thus keeping his nose to the grindstone forever, an empty purse in his pocket, and both himself and his wife and family the hardest worked and the worst paid people in the world.

AULD LANG SYNE. The effect was electrical; the scene one never to be forgotten. The audience took up the song and in a moment it was pealing forth from 15,000 voices. The gates from Texas clasped the hand of New York. The men of the one system

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Horse Notes.

General Withers thus speaks of the death of Almont:

Almont died July 4th, at nine o'clock, from an attack of spasmodic cholitis. The attack was sudden and violent and resisted all efforts to check it until it had continued so long that it brought on inflammation of the bowels. He was only sick about twenty-four hours. He was in high health and full of vigor when attacked. In fact he was the best preserved twenty-year-old stallion I ever saw. He looked, moved, and acted as if in the very prime of life. The usual custom was to feed and water him early in the morning, and about eight o'clock to turn him out to graze and exercise, in a large blue grass paddock. As it was quite warm on the 3rd instant, his groom turned him out quite early in the morning, and before he was fed and watered' as usual he trotted rapidly around his paddock, stopping now and then to graze a little; and after being out about an hour, was taken up. While heated from the exercise, he was given a bucket of water fresh from the cistern. This no doubt brought on the attack of cholitis. The peculiarity lies to me is great, but I feel but little concerned at this. I and all my family, however, were so much attached to Almont that we were deeply grieved by his sudden untimely death. He was so kind and docile, and so intelligent and affectionate, that all who knew him well became greatly attached to him. If any stallion ever merited the title of "Equine King," I think that Almont was fairly entitled to the distinction. He was absolutely faultless in his disposition and behavior, whether in harness, or in his stable, or paddock. A stranger, a lady, or a little child, could enter his box stall or paddock with entire safety. He never showed the slightest animosity to any person but one, and that person had without cause or reason struck him severely with a whip. The kinglike nature of Almont resented the injury and insult, and the party who gave him the cruel blow, with the whip was always in danger whenever he afterwards entered Almont's box stall.

H. S. Woodruff, a wealthy and well-known horse-fancier, of Jonesville, Wis., has purchased Bashaw Goldsack, the sire of Johnstone, the fastest pacer in the world. The price is not made public.

In the year 1883 no fewer than 9,096 animals were thrown overboard in the trans-Atlantic passage to England, 664 were landed dead, and 526 were so much injured or exhausted that they were killed at the place of landing; making a total of 10,286 animals done to death by what the Mark Lane Express calls this "horrible trade."

The ages of some of the more noted trotting sires are: Volunteer, 29; Smith's Young Columbus, 31; General Knox, 28; Daniel Lambert, 25; Wood's Hambletonian, 25; Mambino Pilot, 24; Middletons, 23; Phil. Sheridan, 21; Dictator, 20; Happy Medium, 20; Almont, Harold, Belmont and Jay Gould, 19; Messen-ger Duruc, 18; Aberdeen, 19; Elec-tioneer, 18.

A horse has been known to live to the age of 62 years, but the average life-time is between 25 and 30 years. From one of the New England States come the report of a horse, now past 38, which is lame and hearty and able to draw as heavy a load as most of the young horses. It is a noticeable fact that when horses of remarkable ages are found, they are generally from well bred stock.

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—A poor driver, or even a second-class one, would have lost that heat and the race with it," said a man at the Driving Park, Saturday, who has been identified with the trotting turf as owner, driver and trainer for fifteen years. The remark was called forth by the masterly manner in which Budd Dooley rallied May Bird at the finish of the concluding heat in the 2½ race and landed her a winner by the shortest of heads. The mare had gone three very fast heats and by reason of previous sickness was not in condition to stay out a fourth-contest where the pace was so strong. An ordinary driver would have made so much use of her speed in the first two heats as to render her unable to compete successfully for the others; but Dooley made no such mistake. Winning the second and third heats with as little distance as possible between the first and second heats, he went away for the third with the mare seemingly in possession of as much speed as ever, but when half way down the home-stretch it was evident that she was becoming fatigued, and by the time the distance stand was reached she was ready to make a tired break, which would undoubtedly have lost her the heat. The other horses were at her wheel and coming fast. An ordinary driver would have put all his energy into a last despairing effort to make the mare carry her brush to the wire and have lost. Dooley did nothing of the kind. On the contrary, he took May Bird until two of the others were ahead of her. Then, when everybody thought the heat was lost, he gave the mare a hearty shake of the bit and the exact instant when it was most effective and best Lynnwood by a few inches. It was a fine bit of driving as has been seen for many a day, and when it is known that the man with whom this remark is made is a man of great skill and knowledge, it is evident that the record of this paragraph begins in not terms of friendship with Dooley, but of the skill with which he is two years old.—Reynolds' Draught Horses.

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—I have always contended that, in due time, Smuggler's fame will be perpetuated by his colts, because his shape, gait, temper and breeding are calculated to beget speed. All arrangements have been made to perpetuate his name.

—Smuggler's name has been obeyed through I had

—The protection and benefit of stallion owners in the State of Ohio, the following act was passed by the General Assembly, March 18th.

There is no question but that it will meet with the approval of those who are trying to raise the standard of the horse interests of that State, by keeping good stallions, and will not be objected to by honest men who will appreciate them.

—I. That the keeper of any stallion shall have a lien upon the get of any such stallion for a period of one year after birth of same for the payment of the service of any such stallion.

—I. That such keeper or owner of any stallion, in order to obtain and perfect such lien, shall, within ninety days from the time of the condition of such service by any stallion, file with the Recorder of the county where the service has been rendered, an affidavit o

—I. That such keeper or owner for the service, and for filing or making any affidavit of such affidavit, or the certificate of the same, will be entitled to the same fees as are provided by law.

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The Home Circle.

THE DAY IS AT HAND.
Awake, awake; the night is past,
The morning comes: awake.
Star after star is fading fast,
Ere long the day will break.

Even now the mountain tops are bright
With the advancing day.

Oh! sleep not through the hours of light,
A wake to life and praise.

Cast off the robes of sloth, and gird
Your heavenly armor on,

Soon will the trumpet's voice be heard,
Of God's returning Son.

Ye would not that your Lord should find
His people slumbering still?

Arise! let body, soul and mind,
Unite to do His will.

Short is the time, oh! spend it not
For earth and sense alone,

Nor let the warning be forgot,
That "ye are not your own."

Walk ever where the daylight beams
Fall clearest on your way;

Never wandering from the sacred gleam
Of that celestial ray.

So, when He comes, whose blest return
Each advent hails more near,

Your hearts with holy joy shall burn,

It's welcome voice to hear.

And we who bear His cross below,
Shall share His crown above.

The glories of His kingdom know,

And praise His endless love.

M. G.

LITTLE CHICKS.

[Written for the children who read the RURAL WORLD.]

Well; what shall I write
For my darlings to night,
As I sit here alone—
All alone?

Shall I tell them a story,
A wonderful story,

How meat is made
Out of a stone?

Once a little, white banty,
A prettier can't be,

Went scratching around
For some grain.

She picked up some corn,
And sure as you're born,

She picked up a stone,
That's plain.

She strayed away,
And the very next day

Performed a most
Wonderfulfeat;

For the wisest of men
Might not have known it then.

She turned stones
To meat.

Went into a smoky
And hid herself
Slyly away.

And each day at her leisure
She added one treasure

To these little pearls
In the hay.

Then by day and by night,
Through the darkness and light,
She quietly sat
On the nest,

Protecting from harm,
And keeping it warm

With her wings, and her soft,
Downy breast.

* * * * *

And what happened one day
To that nest in the hay,

And the little white pearls
Enclosed.

Is more strange by far,
Than steam horse or car,

Or anything man
Has proposed.

O, the sweet little things,
Peeping out from her wings,
So cunning, so dainty,
And small;

Her eyes quick and bright,
Looking out on the light,

From the top of a soft
Little ball.

O, miraculous change!
Most wonderful strange!

This is something no
Mortal can give,

This spirit that quickens
The dear little chickens.

Breathes into them life,
And they live.

PAULINE.

Education.

In the following letter to a Nebraska paper we see the deft hand of our own "Walnut."

"In 1870 the committee of education, at Washington sent out a series of carefully drawn, comprehensive, and searching questions, to the great centers of labor in all parts of the United States. These centers were so selected as to represent every kind of labor, from the rudest and simplest, up to the most skilled. The object of the questions was to determine the relative productivity of literate and illiterate labor. This investigation—one of the most interesting ever made—brought clearly to light the following facts:

1. That the average free common school education, such as is provided in all the states, where the free common school has become a permanent institution, adds fifty per cent. to the productive power of the laborer considered as a mere productive machine.

2. That the average academical education adds one hundred per cent.

3. That the average college or university education adds from two to three hundred per cent. to his average annual productive capacity, to say nothing of the vast increase of his manliness—to his Godliness."

"Education is the key to wealth. Educated labor is not likely to be imposed upon, and is not given to strikes. It knows its reasonable and just rights, and maintains them in a legal and peaceful manner."

"The first incentive to action is self-support, gaining a livelihood. The key to self-support is education. Money and time, and education are capital invested in such a manner that the principal is absolutely safe and the income, large, sure, and promptly paid."

"Thus wrote a man who had given his subject—"Illiteracy and education in their relation to wealth and pauperism, crime and morality" much close thought and careful investigation of census statistics. The conclusions he draws show overwhelmingly that "illiteracy" or ignorance is the direct cause of nearly all the pauperism and crime, and the best remedy against these is intelligence or education for the children. Education is the direct source of wealth and morality. Now if this is true of common school education in general, and of common people every where, and that know "the world" but a source

we, as farmers, are losing money every year because we are not sufficiently educated. There are lots of ignorant farmers who scout and scoff at "book learning" and won't so much as look at an agricultural paper, but their premises tell the story of their want of success—a lack of intelligence. May it not be if we would read and study and think more, do less hard manual labor, that we would live better, enjoy life more, and get rich faster, if wealth is what you want? These are points worth thinking about.

Science in Woman's Life.

[Thesis for Master's Degree presented by Mrs. Nellie S. Kedzie, Class of '76 at the Kansas Agricultural College Commencement.]

The drudgery of life comes alike to men and to women. As we look through the world and count the many occupations in which the dwellers of earth are engaged, we see the numbers of men toiling for new knowledge in the vast fields of what we call science, and the question arises, Why is it that women are, to a great extent, left out of this work? Are the very few who give up their whole lives in pursuit of the facts the only ones who should do scientific work? Is the whole mother of science? As our school teacher has asked my class the following question: Suppose a person could live on certain point at 12 Wednesday noon, travel westward with the sun, and arrive at the same place from which he started at 12 Thursday. As he goes round every one he asks tells him it is 12 o'clock Wednesday, but when he arrives he is told that it is 12 o'clock Thursday. Now where or at what time did it change from Wednesday to Thursday?

Answer. The change occurred on crossing a certain line in the Pacific ocean. After crossing this every one he asked should have told him it was 12 o'clock Thursday. Suppose another case, not so simple but more nearly practicable. Let our traveler leave New York and go West night and day, at about thirty-six miles per hour or through fifteen degrees of longitude in a day. The result would be that each of his days would be twenty-four hours long; he would go round the world in twenty-four such days, and would double one day in his calendar. If the "correction" were made on the morning of December 26 it would immediately become December 25 in the morning; his children would exult in a double Christmas, but what Santa Claus would do is uncertain. Where the North with his song, but when he flies South he feasts on the rice swamp-tail, as the "red bird," he is brought to the table of some dainty Creole. All the way through the list, up to the wild turkey of the West, or our shy prairie chicken,—both so much esteemed that even Royalty is trying to acclimate them in Canada,—the gray goose, flying with his hours "honk" toward warmer weather—every class has its offering for the table. And shall the cook, then, have no interest in the study of birds except to simply make ready for eating what is left after life—that which made them so precious in God's sight and beautiful in man's—has been taken from them?

The Government spends money in experiments. The farmer stocks his ponds, his brooks or his lakes with fish. The tired laborer, the lazy sedentary or the really devoted弟子 of the Chinese, the Indian, the Hindu and the like, luring the hapless fishes to their death, all finding their work in vain, unless the busy housewife with her deft fingers and the proper amount of heat, shall fit these products of so much labor and skill for the dinner table. How much more real enjoyment may she have if, while preparing these foods, she knows something of the story that may be told of their mode of living; the food they ate, and the changes they have undergone before coming to her table?

But for the science of botany, and, growing out of this, the various branches of plant study, we should have few of our fruits and vegetables. The difference is marked between the hard, sour crab-apple found in Asia, and our own kindly fruit, that gives us in every month in the year a dish of delicious apple sauce. Still, the better has been evolved from the worse, and the man who labored in this branch, or in nearly all the rest, man's labor for improvement, supplemented and carried forward by woman's deftness, all comes to one end, all culminates in that miracle of modern science—a good dinner.

Chemistry, the grandest science of them all,—for in many of its branches the care of human life is its end and aim,—should be of the greatest interest to the woman who carries on the everyday work of a home. The making of a loaf of bread brings out more reactions than does the resolving of dynamite into the harmless elements which compose it. The washing of a pan of dishes brings into use more agents and causes more chemical changes than the formation of the most gorgeous rainbow that ever dazzled the eyes. The proper cleaning of a window or a painted door calls for a knowledge which is the basis of that window, door, and the lack of knowledge of the best methods of doing hard things about a woman's work, sometimes costs the life of the housekeeper, bringing desolation to the home and despair to the hearts of the loved ones.

It is not only the heavy work that wears out a woman's life, but work that is barren and hard, giving no pleasure in life from day to day, dragging another task forward before one is out of sight,—no piece of the work bringing a thought of the beautiful, because there is no appreciation of the many wonderful things going on under the tireless hands that bring about so many pleasant results, and no idea of the beauty seen in everyday things. That kind of work wears out a woman's life, giving her no pleasure as she lives along, and leaving only a dreary blank to look back upon when she is gone; they are not seen that white men have any more."

joy from which may go out minds that will wield an influence in the world too great for measurement, and of which the end shall not be told.

There is so much in the beginning of education. The little child playing about the door finds an insect, a flower, or a curious pebble. The baby mind opens eagerly to grasp anything told of the treasure, and just there may be the first lesson in entomology, botany or geology. Not a day will pass in the life of the mother in which she will not find use, in the teaching of her little ones, for some of the sciences of which she has knowledge. As there is no end to labor in these sciences, so there is no end to use for them. And they really constitute the greater part of useful knowledge in all the relations of life—a woman's life even more than a man's, for on her rests the greater responsibility of making the home life cheery. As our minds grow stronger and wiser, the home will become a stepping-stone to the world beyond, where we may know all things as they are.

Losing a Day.

One of the curious submits the following question an exchange which may prove of interest to our readers:

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The Dairy.

Officers Mississippi Valley Dairy and Creamery Association.

President—Norman J. Cooman, St. Louis. Vice President—Jos. W. Drury, Waterloo, Ill. Second Vice President—Joseph E. Miller, Belleville, Ills.

Treasurer—Wm. N. Tivy, 424 North Second St. Louis.

Secretary—Joseph W. Sheppard, 600 Olive street, St. Louis.

Education in the Creamery.

Mr. F. S. Griswold, a well known contributor to the RURAL WORLD under a nom de plume, thus writes to a Nebraska paper of the above subject:

I have been so busy in the practical part of making butter, that I have not had time to write, scarcely even to think closely. Carefully, however, I have tried to give a concise expression to one's idea. I believe the life and the occupation of the farmer offers greater advantages and privileges to him who would think as he labors, than any other occupation in this busy world. The day laborer is generally too ignorant to have many thoughts,—the mechanic or skilled artisan must keep his mind strictly on the work before him,—but the farmer, as he follows the plow or cultivator to and fro, or rides the mower or harvester round and round the waving field, has abundance of time for thought, for planning the work for the coming week. His mind can roam through the whole realm of nature, and of science, and literature, if he will. But especially should the wide-a-wake farmer read and think and study to become informed of all changes of importance in his own field of work. This is an intensely progressive age, and the farmer is moving forward all along the line. Shall we of the West lag behind? What needs to be done? Well, for instance, a creamery is established here in your midst,—are you (the farmers) willing, are you ready to make such changes as are necessary, in your present mode of farming, to furnish the creamery an abundance of cream—pure, sweet, rich cream—cheaply, profitably to yourselves, for if the cream costs you more than you can get for it at market value at the creamery, it won't pay, and if it don't pay, it's a loss, and the sooner it is stopped the better. So the first and chief thought the patron should consider is, how to reduce the cost of producing milk and cream to the lowest possible limit, thus increasing the patron's profits, for profit of money is what we are all working for. It is said that "money is the root of all evil."

not money that R. W. Now

is used for

and worked

simples, for its own sake. But money is merely a medium of exchange, and in its legitimate sphere is as essential to commerce as air for our lungs. The farmer is just as anxious to get his share of the "almighty dollar" as the creamery man, or any one else, and he generally gets all there is in it."

Now the problem for the farmers to solve is, how to increase the annual crop of "Almighty Dollars" without additional expense or labor. This can be done in various ways, as by improving the stock, the feed, the shelter, the care. We will discuss these in subsequent letters. I may state in one sentence that the great change for the better will come only when people cease to give for grain, and endeavor to turn their lands into a farm; for animal farming is the most profitable, and dairy farmers are the richest, the world over. The reason for this is in the fact that dairy farming is a more complex business, requires a greater degree of intelligence, a wider range of knowledge, a more skillful training of the eye and hand, a quickened activity of thought, for dairy farming is really diversified farming. Hence, to be successful as a dairyman, he must be well and carefully educated for his business. There is not, never was, and never can be a truly successful dairy farmer, who was ignorant, careless and shiftless in his habits and his mode of work. Dairy farmers are the most wealthy, because they are the most intelligent, the best educated. So my friends, if you would reap the harvest of golden dollars, on the dairy farm, first become intelligent, for intelligence is the measure of man's success. "Education is the key to wealth." "Knowledge is Power."

Missouri Butter Tests.

This is to certify that I personally made and superintended the following tests of the Jersey cows below given, belonging to H. W. Douglass of Pevely, Mo. The cows were milked dry twelve hours before the tests began:

Lucilla 3d 9786 gave, May 5th to 11th inclusive, 214 lbs. 4 oz. milk, from which was made, in two churnings, 15 lbs. 7 1/2 oz. of solid butter, packed ready for market. Feed per day, in two meals, 10 lbs. wheat bran and 5 lbs. cottonseed meal, cost 6 cents, and on mixed grass, for pasture, Lucilla 3d was fresh Dec. 11, 1883, with second calf and 3 years old, and at the time of the above test was thus five months in milk, including the most severe and coldest winter ever seen in this section. Also, she was in calf to Paddy 39 four months. From Dec. 29, 1883, to Jan 4th inclusive, seven days, she made 14 lbs. 2 oz., with the thermometer 30° below zero. At the present writing June 15, 1884, she is nearly five months in calf, and is milking 30 lbs. per day on grass alone. Lucilla 3d was bred by S. M. Burnham of Saugatuck, Conn., out of old imp. Lucilla 2753, (22 1/2 quart) per day, and record 14 lbs. 2 oz. per day the week she was two years old, in February, 1883, for W. R. McCreedy. She is half-sister to Campo Boy, who stood in Mr. McCreedy's herd, and is now in the herd of A. McClinton & Son, Kentucky. For a young cow with second calf the above tests are very remarkable.

Jennie of the Vale 9553, gave, during the week from May 24 to May 31st inclusive, 250 lbs. milk, from which was made in three churnings 17 lbs. 7 1/2 oz. solid butter packed ready for market, March 29th, with third calf, and per day in two meals, 6 lbs. wheat bran, cost 5 cents, and 5 lbs. cottonseed meal, cost 6 cents, and on mixed grass pasture. Weather during the test cold and wet. Jennie of the Vale, though her dam Elsie Brown 4926, is a daughter of Paddy 636, and through her, a g. g. daughter of Albert 44, was tested one year ago with second calf, and as a three-year-old, made 14 lbs. 2 oz. Jennie of the Vale won a prize of \$100 at the last great St. Louis Fair, 1883.

Cherry 3d (half-blood Jersey), daughter of old imported Paddy 899, six years old, and fresh March 24th, 1884, during the week, from May 19th to inclusively, 18 lbs. milk, from which

was made in two churnings 19 lbs. 4 1/2 oz. of solid butter, packed ready for market. Feed, 6 lbs. wheat bran and 4 lbs. cottonseed meal per day, and cost 10 cents per day.

4. Cherry 2d (half-blood Jersey), full sister to Cherry 3d, and sired by old Paddy 899, fresh March 23d, 1884, and 7 years old, gave during the week, from May 28th to June 3d inclusive, 299 lbs. 8 oz. milk, from which was made in 2 churnings 15 lbs. 8 1/2 oz. solid butter, packed ready for market. Feed, 5 lbs. bran and 3 lbs. cottonseed meal per day, that cost 8 1/2 cents.

The above daughters of old Paddy 899 are certainly phenomenal cows for grades, and place Paddy 899 exceedingly high as a sire of butter cows. Unfortunately for Paddy's credit, most all his get, up to three years ago, have passed in the hands of those who will never test them—many at the South and far West, where tests are rarely known.

Of those that we know are Ella of Sidney 4522, 14 lbs. in 7 days at 2 years and 2 months old; Rosetta of Sidney 4520, 14 lbs. 2 oz. in 7 days at 1 year and 11 months; Rosalia of Sidney 4521, 14 lbs. 2 oz. in 7 days at 1 year and 11 months. The above three tests were made by Dr. James Sweet, Unadilla, N. Y. Cherry 3d, 19 lbs. 4 1/2 oz., and Cherry 2d, 13 lbs. 8 1/2 oz. for H. W. Douglass; Darling 3d (entitled to registry in A. H. B.), rate of 14 lbs. on grass, and made 35 lbs. per day for A. P. Wymer, Liberty, Mo.; Maudie 3d (entitled to registry in A. H. B.), 10 lbs. 8 oz. the week she was 2 years old, for D. Douglass.

Paddy 899 won 1st prize at the New York State Fair in 1873 as a 2-year-old, also in 1874, and has been awarded 1st prize four times at the great St. Louis Fair, when old age was against him. Four of his get won 1st prizes last year. He is, I am glad to say, still alive, although very lame from a fall on his hip, and nearly 13 years old. I hope to send you, in a few days, some more tests that I am now making.—H. W. Douglass, Pevely, Mo., in Country Gentleman.

Cattle for Dairy Purposes.

Mr. E. C. Tisdall read a paper at the recent Gloucester (England) Dairy Conference on the Selection and Breeding of Dairy Cattle, strongly in favor of the Shorthorn, which no superiors in this respect. For the past five years a series of experimental analyses have been conducted under the auspices of the British Dairy Farmers' Association, at their show at Islington, by Dr. Aug. Voelcker, in order to add a committee in determining the milk-giving and butter-producing power of the animals in the different classes entered for milking prizes. The classes were divided into Jerseys, Shorthorns, Dutch, or Holstein, Ayrshire, Friesians, and any other pure-bred. These analyses showed the average of milk given by a number of cows of various breeds in 24 hours, and the amount of butter-fat and total solids. The following is the summary of averages:

Breeds	No. Sam. pas.	Avg. Milk.	Total Solids.	Fat.
Shorthorns.....	23	44.91	3.79	12.7
Jersey.....	19	42.27	4.36	11.8
Guernsey.....	10	25.49	4.36	14.09
Dutch.....	6	46.90	2.97	11.8
Crossbred.....	3	51.66	3.15	12.51

After giving these figures Mr. Tisdall proceeds as follows.

OTHER TESTS.

Before applying these figures, it is desirable to compare them with those presented by the owners of large herds, to ascertain by practical results derived from a wide area, and subject to the varied changes of food and climate. In Mr. J. C. Morton's interesting work on "Dairy Husbandry," the yearly returns from two dairy farms are presented. Mr. Wright of Chipstead, Surrey, from 50 well-fed Short-Horns obtained per head per annum 750 gallons, and at the second farm, 650 gallons from a similar number of cattle. Mr. Allsbrook of Notte mentions 690 gallons per head, for the season of 9 months on a good Derbyshire farm. On Lord Warwick's farm 735 gallons per cow were entered on the record of 50 head, extending over ten months. This is a high yield, but that it is not more can be obtained from Short-Horns chosen for meat, and that it is not more than is safe to expect, the return was taken at to afford data for adjudicating the milk prizes at Islington, in 1880, from 60 cows of my own herds, giving 948 gallons per head, over 10 3-4 months. In this instance, it is fair to say a liberal diet was adopted, and the records of the best milkers were tabled as serving better the purpose in view. Probably the mean of these cited cases would be fair basis to rely on from well-managed Short-horns.

The analyses in the last two examples confirm fully the Islington data, being slightly higher in butter-fat and other solids. Among Jersey stock the valuable records of Mr. Burnett's "Deerfoot Farm, Massachusetts," quoted by Dr. Sturtevant in the 36th number of the Royal Agricultural Society's Journal, are most conspicuous. The average yield of the herd over seven years, from 1873 to 1879, reached the great figure of 603 gallons per head per annum.

This is much beyond the usual amount, which is from 450 to 550 gallons. Mr. George Simpson's herd at Wray Park, Reigate, has a reputation for milking properties, and his returns support those of Mr. Burnett as to the great capacity of the tribe for dairy produce of high qualities, 29 cows averaging 11 to 12 quarts daily, and 18 lbs. milk yielding 1 lb. butter. It will be fair to register the annual return of this rate at 500 to 520 gallons at the same rate of analysis as the Dairy Show data. No return from any considerable number of Guernsey cattle has yet been made public, but from individual instances, which are numerous, it may be inferred that their milking powers do not fall much below the rate in the Jersey Island. The Islington figures appear, therefore, to afford a correct proportion, which will be 450 gallons. No herd of Dutch cattle simply are known to be in this country, but general experience credits them with equaling or surpassing the Shorthorns in quantity, and this is supported by the Dairy Show returns.

In Mr. H. M. Jenkins' much prized contributions to this subject in the Royal Agricultural Society Journal, he cites a dairy of 500 cows at Holme, Denmark, producing 1,100 gallons daily—nearly 9 quarts per head. Another herd of 36 cows averaged 548 gallons in 1878, and in 1879 661 gallons in 1872, and is a third case 660 gallons each per annum given. We shall be justified, therefore, in crediting this rate with an annual yield of 650 gallons, each on the qualitative basis of the Dairy Show data.

BULL'S SARSAPARILLA is the old and reliable remedy for impurities of the blood and Scrofulous affections—the King of Blood Purifiers. DR. JOHN BULL'S VEGETABLE WORM DESTROYER is prepared in the form of candy drops, attractive to the sight and pleasant to the taste.

DR. JOHN BULL'S SMITH'S TONIC SYRUP, BULL'S SARSAPARILLA, & BULL'S WORM DESTROYER. The Popular Remedies of the Day. Principal Office, 831 Main St., LOUISVILLE, KY.

In my own herd, one-fourth Hereford and three-fourths Sh. horn, gave excellent results—14.1 quarts of milk daily for 9 6 months, of fair quality. Other races such as the Kerry in Ireland and Ayrshires in Scotland, the Pembrokeshire in Wales, and the Polled Norfolk cattle, have just claims as dairy stock in their own localities; but their suitability to the bulk of our dairy farms is too problematical to bring them within reach of this inquiry, which will therefore be practically confined to gauging the merits of the Shorthorn, Jersey, Guernsey and Dutch races and their intermediate descendants.

RELATIVE DAIRY VALUE OF VARIOUS BREEDS.

Let us now classify these figures.—Placing the average quantitative return from existing Shorthorn herds per head per annum at 700 gals., Jersey herds per annum at 520 gals., Guernsey herds per annum at 400 gals., and Dutch herds per head per annum at 400 gals., which are the largest per head records we have—

the custom, they were fed sufficient corn during the first fall and winter, to keep them in good growing condition, and turned on good clover pasture first of May and kept on the pasture up to August, without any kind of grain. Their gross live weight on this date was 15,600 lbs.; they were fed on good, sound, old corn up to September 10, then on new corn up to December, making the total number of days fed 101; they were then reweighed, and they weighed 41,084 lbs., and the gain in the 101 days' feeding of 25,484 lbs. they were fed 2,209 bushels of corn. Now, counting their gross gain at 5 1/2 cents, which is their true value at home, gives 2,401.62 for the corn fed them, making the value of the corn per bushel at home, 63 1/2 cents; the yearly average price of corn in the Cincinnati market was 56 cents.

In the above calculation the gain gross

is valued at the home selling price, which is the correct basis to calculate on the profit in feeding grain to stock; but stock fed can, as a general rule, be bought at less than the selling price when fattened and ready for market.

The daily average gain per hog of this lot was 2 1/2 lbs., and the gain per bushel of corn was 11 1/2 lbs.—this is the largest gain per bushel that I ever have made in feeding hogs, but they were all old and fully matured in growth of frame, and in the best possible condition for feeding. Their net weight in Cincinnati, 34,100 lbs., showing a loss from gross to 101 per cent and sold at \$3.43 per bushel, or \$12,301.15, this gives \$4,123 for their delivery to Cincinnati over the 5 1/2 gross or live weight at home.

As a general rule, 9 to 10 pounds is fully an average gain per bushel of corn on hogs that have their full growth in frames. A good, careful feeder, with good weather for feeding, good corn and the stock sheltered from cold storms, can make 10 to 11 pounds gain per bushel of corn, but careless farmers who pay but little attention to improving their stock of hogs, and that seldom commence feeding until late in the fall and feed in the mud with no shelter from the cold storms—cannot expect to realize over 8 to 9 pounds per bushel of corn even on old hogs, and on young hogs, as all my experiments have proven.

THE SHORT-HORN FOR DAIRY PURPOSES.

The first inference from these calculations is plain and indubitable. All other things being equal, the Shorthorn is by far the most profitable animal for general dairy purposes. Where richness of milk and butter is chiefly desired, the Channel Islands tribes seem to fulfill those requirements better and at less cost, their consumption of food being small. Where a town milk supply alone is aimed at and quantity is most in request, the Dutch race, or, better still, the Dutch crossed with Shorthorn sires, produces the desired result at the lowest outlay, but their feeding qualities are not equal to some breeds. This is the fatal factor in the problem. To what base uses may they return?" If the shambles base are they inert, and off the elite—of the first-class of the feeding-growing capacity of our stock. It may be questionable if the Jersey exceeds the Dutch in this particular, or if the Guernsey much surpasses those other two races, but it is quite unquestionable that in aptitude to fatten and lay on flesh of fine texture rapidly, the Shorthorn and its grades—as our American cousins say—by far exceed all the other dairy breeds. This valuable quality, in addition to their milking propensity, renders them superior to all others for the purposes of the dairy farmer, and all our leading dairy districts attest this fact by using Shorthorns more or less pure-bred, or native sorts repeatedly crossed with them.

FOURTH TRIAL.

January 1, 1883, weighed 16 selected spring hogs, nine months old; they weighed 2,245 lbs. Live weight average 140 1/2 lbs.; they were fed to March 27; total number of days fed, 86; they ate 138 1/2 bushels of corn; were reweighed, and weighed 3,610 lbs., a gain of 1,365 lbs; gain per hog 85 1/3 lbs. Daily gain per head, 1 pound; gain for each bushel of corn fed, 10 lbs. (a fraction less) they were sold at 7 1/2 per lb., live weight, which gives value of the gain \$102.37 for 138 1/2 bushels of corn; per bushel 74 1/4 c.

The above trials were made on selected hogs, giving extra care with the best of corn, showing that when a bushel of corn fed to hogs gives in return 10 pounds of pork live weight, it requires hogs of fully matured growth in frame and careful feeding, good weather, good corn and shelter from cold storms. An extra feeder may exceed 10 to 11 pounds, everything favorable, but over is an exception, and from the above gains per bushel of corn would appear to give the following comparisons of corn and pork:

When corn is worth 40¢ per bushel, and fed to hogs, the price live weight of hogs should be 4 1/2¢ per lb.; corn at 50¢ per bushel, hogs 5 1/4¢; corn at 60¢; hogs live weight, 6 1/4¢; corn 70¢; hogs 7 1/4¢; and corn at 80¢, hogs should be at 8 1/4¢, live weight. This is based on no loss from hogs dying while feeding.—Jos. Allen, in Grange County Bulletin.

BED-BUGS, FLIES.

Fleas, roaches, ants, bed-bugs, rats, mice, gophers, chipmunks, cleared out by "Rough on Rats."

Transfers of Thoroughbred Stock.

AMERICAN BERKSHIRE RECORD.

How Hill Orient 13th, 11,801; Springer Bros., Springfield, Ill., to J. S. Atwood, Carrollton, Mo.

Betsy Tombs 2nd, 7894, A. W. Rollins, Manhattan, Kan., to W. C. Walker, same place.

Rosemary, 11,824, Gipsy King, 11,825, W. Warren Morton, Russellville, Ky., to Collier, Hudson & Co., Milford, Tex.

Minerva, 11,879, Modoc 11,878, Sally Ann, 11,880, and Mira, 11,881, Clifford and White, Wellington, Ohio, to S. M. Saylor, Mayersville, Penn.

Buckeye Belle, 11,882, and Buckeye 11,883, Clifford & White, to W. B. Atkins, Franklin Park, Ill.

Ohio Princess, 11,884, and Ohio Princess, 11,885, Clifford & White, to E. P. Long, Cameron, W. Va.

Ute Calf, 11,156, A. W. Runsey, Westfield, N. Y., to Runsey Bros., same place.

W. L. Ashby, Calhoun, Mo., to E. E. Finney, Fremont, Neb.

Ceres, 10,456, Wrinkle & Riley, Plattsburgh, Mo., to John T. Wrinkle, same place.

The Stock Pards.

Weekly Review of the Live Stock Market.
The receipts and shipments for the week ending Tuesday, July 15th, were as follows:

	Cattle	Hogs	Sheep	and mules
Wednesday	1814	6554	1534	18
Thursday	2815	7890	403	152
Friday	963	4612	1985	749
Saturday	104	104	123	20
Monday	3491	5140	631	218
Tuesday	3882	2560	837	11
Total	10,910	27,787	5,390	1,364
Last week	11,843	17,159	7,018	500

SHIPMENTS.

	Cattle	Hogs	Sheep	and mules
Wednesday	1708	1336	229	8
Thursday	2574	1287	355	70
Friday	1721	2719	1856	70
Saturday	369	369	214	173
Monday	1475	837	432	67
Tuesday	120	156	1625	192
Total	8,627	17,284	4,631	520
Last week	8,210	21,198	2,357	1,133

In the year 1880 Australia sent 400 carcasses of frozen mutton to England by way of a beginning. The following year the number was increased to 17,750, and in 1882 Australia and New Zealand sent 66,095 frozen sheep. In 1883 this supply was nearly doubled, the number being 148,000 sheep. The first three months of the present year have shown imports of 11,150 car cases from Australia and New Zealand, or at the astounding rate of 384,460 sheep per year, or an average of 7,933 per week.

A great many cattle are being brought to Colorado from New and Old Mexico. Stock cattle are worth \$35 to \$40 per head, beef cattle \$40 to \$50 for three and four year olds, and range cattle that were fed through the winter are bringing more.

The hog packers at Chicago held a meeting last week in which they had agreed that from Friday 21st they would buy no more hogs from scalpers, and that after Saturday they would only buy with the customary shrinkage of 40 lbs. for piggy sows, and 80 lbs. for sows.

What course St. Louis will take in regards to the dockage system is a matter of much uncertainty. As yet nothing has been done one way or the other, both sides watching the effect in Chicago.

The number of hogs packed in the West has fallen off lately, but the total since March 1st is 2,000,000 hogs, against 1,800,000 a year ago.

Nebraska is coming to the front in stock matters. For many years the hogs of that State have been of the finest. The improvement in the general average of cattle is a slower process, but it is going on all over the country.

The chairman of the Financial Committee appointed to solicit subscriptions from stockmen for the cattle convention, shows contributions to the amount of \$3,145 up to date.

Massachusetts has 1,231 cows less than a year ago. The largest decrease is in the eastern part of the State, where the milk contractors have reduced the price paid farmers below the real cost of production; hence the formation of the Massachusetts Dairy Company.

The members of the Eastern Butchers' Association are getting themselves into trouble in New York City by distributing leaflets headed " Beware! Beware! " and telling the readers not to patronize any butcher who sells Chicago dressed meat, and to be sure to look in the butcher shops for the red placard of the Central Labor Union, bearing the notice—"No Chicago dressed meat sold here." Several of the members were arrested in their "boycotting" attempt and fined.

Mr. Jim Delzell, after several years of service at the National Stock Yards as a buyer in eastern houses, has gone to Kansas City. Joint agent Moore, of the Southwestern Association, has given notice that the rates in the car lots from Caldwell and Hutchinson will be \$5 per car to St. Louis, \$4 to the Western road, and \$3 for the Association; and \$9 per car to Chicago; \$7 for the Western, and \$3 for the Association.

The Texas cattle drive this year is the largest that has been driven out of Texas to the Northern States for several years; the estimate being placed at 350,000 head.

Twenty cars of cattle were loaded by Levers, Clinton and Miller, of the Red Fork, I. T., at St. Louis last week, and the run was made over the St. Louis and San Francisco, so that the stock was unloaded at the National Yards twenty-five hours after leaving their destination. This is considered the fastest time on record.

The statement of the Kansas City roads shows that during the six months ending July 1st, the Chicago and Alton forwarded 5,500 cars of live stock; the Wabash 3,112, and the Hannibal & St. Joe 2,569 cars.

The official report of the live stock traffic of the east bound roads from St. Louis to the Western road, and \$3 for the Association; and \$9 per car to Chicago; \$7 for the Western, and \$3 for the Association.

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The first two car loads of refrigerated beef which is to be shipped from Texas to this city arrived here at noon Sunday and was placed upon sale the next day. It is expected that this movement will materially reduce the price of fresh meat, as the managers claim that they can sell the dressed meat cheaper than cattle can be purchased on the market.

CATTLE—Weakness and an unsettled feeling was the leading feature at the opening of the general cattle market this week. Prices ruled irregular and 23 cents lower in all grades of native cattle. Eastern buyers from the start and indeed during the entire week made strong efforts to keep prices down, but were only partially successful. Holders with the assistance of a small supply, more urgent demand and favorable eastern markets succeeded in holding prices steady and in some instances a little stronger prices were obtained, though there was no quotable advance, the range of sales being made at \$6@ \$6 for heavy well-matured steers, \$5 50@ \$5 for fair to medium, and \$5 25@ \$5 for light weight. The few Colorado offered readily brought \$5 75@ \$6. The week's market for Texas and Indiana cattle has been an active one, and in many respects the general trade was without new features. Values as compared with those current last week averaged a shade lower, but still satisfactory to owners and the demand for good of all kinds seemed to the supply.

BUTTER—Market fairly overstocked with undesirable goods—grades below choice—overheated, off-flavored, light-colored, etc.; demand still limited and confined to strictly choice stock—slater steady in price, but everything else weak or entirely nominal. Creamery—fancy 20c, fair and gathered cream 17c@ 18c, overcasted; dairy—choice and selections 14@ 16c, poorer grades 9@ 12c, lots in pails and near-by made 6c to 8c; grease 4c.

ELGIN, Ill., July 11.—Butter was a trifle stronger to-day under a better demand. The market was quite active on the board. Sales of 166,000 pounds of butter and 95,000 pounds of cheese were reported. Butter sold at 18c@ 20c, with a few sales at 16c. Cream cheese sold at 6c to 8c.

CHEESE—Full cream at 7c for fair to 9c for choice, prime part skim at 5c; poorer grades at 10c to 12c.

EGGS—Receipts (48 hours) 163 pkgs. Market easy. Sales at 10@12c for fresh s. c. in lots.

LIVE POULTRY—Chickens in limited request; prices easier on young, of which offerings are fair, partly of stock head over from last week. Old scarce and steady. Sales

are guaranteed the best goods in the market. Will do.

PERFECT WORK ON ANY GROUND WHERE A TEAM CAN TRAVEL.

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A. J. CHILD, 209 Market St., St. Louis.

\$8.40 FOR 400.

Any one sending us 40 cents, stamp or letter, will receive a copy of our catalogues for 1884, containing 400 pages of descriptions of our goods, with prices.

For a heavy ROLLING GOLD RING worth \$1. I have a fine variety of goods and make this sacrifice to send you a sample of the best.

Address J. D. HENRY, Box 127, BUFFALO, N. Y.

1884. 1885. 1886. 1887. 1888. 1889. 1890.

Chicago and Alton.....3444 2693

Wabash.....1798 2767

Indianapolis.....3444 2693

St. Louis.....3442 2573

Ohio and Mississippi.....315 1174

Total.....13,344 11,511

C. and A. has gained 113 cars, the Bee Line 166, and the Vandals 83. While the Wabash lost 96 cars, due to the general depreciation of the road, and the O. & M. \$30, which is to be attributed to the spring floods.

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